

DR. RU CAO

PhD Student: 2001-2006



CURRENT POSITION

Senior Manager at Thermo Fisher Scientific (Waltham, Massachusetts)

PUBLICATIONS

Wang HB, **Cao R**, Xia L, Erdjument-Bromage H, Borchers C, Tempst P, Zhang Y (2001).

[Purification and functional characterization of a histone H3-lysine 4-specific methyltransferase.](#) *Mol. Cell* 8(6):1207-1217.

Cao R, Wang L, Wang H, Xia L, Erdjument-Bromage H, Tempst P, Jones RS, Zhang Y

(2002). [Role of histone H3 lysine 27 methylation in Polycomb-group silencing.](#) *Science* 298(5595):1039-1043.

Fang J, Feng Q, Ketel CS, Wang H, **Cao R**, Xia L, Erdjument-Bromage H, Tempst P, Simon

JA, Zhang Y (2002). [Purification and functional characterization of SET8, a nucleosomal histone H4-lysine 20-specific methyltransferase.](#) *Curr Biol* 12(13):1086-1099.

Feng Q, **Cao R**, Xia L, Erdjument-Bromage H, Tempst P, Zhang Y (2002). [Identification](#)

[and functional characterization of the p66/p68 components of the MeCP1 complex.](#) *Mol. Cell. Biol.* 22(2):536-546.

Wang HB, An W, **Cao R**, Xia L, Erdjument-Bromage H, Chatton B, Tempst P, Roeder R,

Zhang Y (2003). [mAM facilitates conversion by ESET of dimethyl to trimethyl](#)

- [lysine 9 of histone H3 to cause transcriptional repression.](#) *Mol. Cell* 12(2):475-487.
- Plath K, Fang J, Mlynarczyk-Evans SK, **Cao R**, Worringer KA, Wang H, de la Cruz CC, Otte A, Panning B, Zhang Y (2003). [Role of histone H3 lysine 27 methylation in X-inactivation.](#) *Science* 300(5616):131-135.
- Zhang Y, **Cao R**, Wang L, Jones RS (2004). [Mechanism of Polycomb group gene silencing.](#) *Cold Spring Harb Symp Quant Biol.* 69, 309-17.
- Umlauf D, Goto Y, **Cao R**, Cerqueira F, Zhang Y, Feil R. (2004). [Imprinting along the Kcnq1 domain on mouse chromosome 7 involves repressive histone methylation and recruitment of Polycomb group complexes.](#) *Nature Genetics* 36(12):1296-1300.
- Bender LB, **Cao R**, Zhang Y, Strome S. (2004) [The MES-2/MES-3/MES-6 complex and regulation of histone H3 methylation in the C.elegans.](#) *Curr Biol* 14(18):1639-1643.
- Cao R**, Zhang Y (2004). [SUZ12 is required for both the histone methyltransferase activity and the silencing function of the EED-EZH2 complex.](#) *Mol Cell* 15(1):57-67.
- Wang L, Brown JL, **Cao R**, Zhang Y, Kassis JA, Jones RS (2004). [Hierarchical recruitment of Polycomb-group silencing complexes.](#) *Mol Cell* 14(5):637-646.
- Cao R**, Zhang Y (2004). [The functions of E\(Z\)/EZH2-mediated methylation of lysine 27 in histone H3.](#) *Curr. Opin. Gene. Dev.* 14(2):155-164.
- Cao R**, Tsukada YI, Zhang Y (2005). [Role of Bmi-1 and Ring1A in H2A ubiquitylation and Hox gene silencing.](#) *Mol Cell* 20(6):845-854.
- Bender LB, Suh J, Carroll CR, Fong Y, Fingerman IM, Briggs SD, **Cao R**, Zhang Y, Reinke V, Strome S. (2006). [MES-4: an autosome-associated histone methyltransferase that participates in silencing the X chromosomes in the C. elegans germ line.](#) *Development* 133(19):3907-3917.
- Li Z, **Cao R**, Wang M, Myers MP, Zhang Y, Xu RM (2006). [Structure of a BMI-1-Ring1B Polycomb group ubiquitin ligase complex.](#) *J. Bio Chem.* 281(29):20643-9.
- Martin C, **Cao R**, Zhang Y (2006). [Substrate preferences of the EZH2 histone methyltransferase complex.](#) *J. Bio Chem* 281(13):8365-70.

- Kotake Y, **Cao R**, Viatour P, Sage J, Zhang Y, Xiong Y (2007). [pRB family proteins are required for H3K27 trimethylation and Polycomb repression complexes binding to and silencing p16^{INK4a} tumor suppressor gene.](#) *Genes Dev.* 21(1):49-54.
- Cao R**, Wang H, He J, Erdjument-Bromage H, Tempst P, Zhang Y (2008) [Role of hPHF1 in H3K27 Methylation and Hox Gene Silencing.](#) *Mol. Cell. Biol.* 28(5):1862-1872.
- Kallin EM, **Cao R**, Jothi R, Xia K, Cui K, Zhao K, Zhang Y (2009) [Genome-wide uH2A localization analysis highlights Bmi1-dependent deposition of the mark at repressed genes.](#) *PLoS Genetics.* 5(6):e:1000506.
- Tao Y, Nepl RL, Huang ZP, Chen J, Tang RH, **Cao R**, Zhang Y, Jin SW, Wang DZ (2011). [The histone methyltransferase Set7/9 promotes myoblast differentiation and myofibril assembly.](#) *J Cell Biol* 194(4):551-565.